

## **REMARKS**

Claims 1-10 are pending in this application. By this Response, claims 1, 5, 6, 8, 9, and 10 have been amended, and new claims 11 and 12 have been added. Claims 1, 6 and 9 are amended in response to the Examiner's objection in paragraph 4 of the Office Action. Applicant has amended these claims as suggested by the Examiner, by replacing "and" with "with." This amendment is made for purposes of clarity only, and not to overcome any cited prior art.

In paragraph 3 of the Office Action, the Examiner states that the preamble recitations in claims 5 and 10 have not been accorded patentable weight as "a claim's preamble is generally not accorded patentable weight." In response, Applicant has amended claims 5, 6, 8, and 10 to now recite "an ultra-wideband pulse train" rather than "a pulse train."

### **Allowable claims**

Applicant acknowledges with appreciation the Examiner's indication that claims 2 and 8 contain patentable subject matter and would be allowable if rewritten in independent form to include all the limitations of the base claim and any intervening claims. In response, Applicant has drafted new claims 11 and 12. Claim 11 includes all the elements found in claims 1 and 2, and claim 12 includes all the elements of claims 5-8. Applicant respectfully submits that claims 11 and 12 are now in condition for allowance.

### **Rejection Under 35 U.S.C. § 102**

In paragraph 5 of the Office Action, pending claims 5 and 10 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 4,206,316 ("Burnsweig"). As discussed below, Applicant respectfully traverses this rejection.

**A. The Law of Anticipation and Enabling Prior Art References**

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. M.P.E.P. § 2131. The identical invention must be shown in as complete detail as is contained in the claim. *Id.*

However, Applicant submits that amended claims 5 and 10 have elements that cannot be found in Burnsweig. As discussed above, both claims 5 and 10 have been amended to recite "an ultra-wideband pulse train." Ultra-wideband communication technology, and its differences from conventional, continuous sinusoidal wave communications was discussed in Applicant's August 5, 2002, Response.

Applicant's originally-filed specification refers to the present invention as a "system and method of ultra-wideband communication" (Field of the Invention section, page 1, line 12), and also discusses the unique characteristics of ultra-wideband communication technology in the Background of the Invention section (page 1, lines 15-20).

However, Burnsweig relates to conventional sine wave carrier technology. Specifically, Burnsweig teaches transmission and reception of television signals (col. 1, lines 14-15), by transmission of a continuous sine wave:

"The single channel of bipolar pulse voltage is applied to the voltage-controlled oscillator 25 for transmitting the encoded data via the antenna 14. If the pulses are applied to a bandpass filter 12a, the bipolar pulses result in a coded sinewave output signal from the filter 12a." (col. 6, lines 18-24)

The coded sine wave output signal (illustrated in FIG. 21b) is a conventional, continuous sine wave. Thus, Burnsweig teaches a conventional method of transmitting television signals.

In contrast, the present invention relates to ultra-wideband technology that does not use a continuous sine wave as disclosed in Burnsweig. Burnsweig contains no teaching or suggestion

of an ultra-wideband communication system, and as discussed above, ultra-wideband technology functions in a completely different fashion than conventional sine wave technology. Therefore, the anticipation rejection of independent claims 5 and 10 is respectfully traversed.

#### **Rejection Under 35 U.S.C. § 103(a)**

In paragraph 6 of the Office Action, claims 1, 3, 4, 6, 7, and 9 stand rejected as unpatentable under 35 U.S.C. § 103(a) over Burnswieg in view of U.S. Patent 3,961,203 ("Hutch"). Applicant respectfully traverses this rejection.

##### **A. The Law of Obviousness**

In order to establish a *prima facie* case of obviousness, three basic criteria must be met:

"First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined), must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on the applicant's disclosure." M.P.E.P. § 2142.

As explained above, the Office Action makes a Section 103 rejection by combining two references. Because a modification to the prior art is required to support this Section 103 rejection, an appropriate motivation to modify must be set forth in order to establish a *prima facie* case of obviousness. *See, In re Fritch*, 972 F.2d 1266 (Fed. Cir. 1992).

In the Office Action, the Examiner presents his motivation to modify: "It would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate the teachings of Hutch into the transmission system of Burnswieg. By correlating the pulse pair, errors in the transmission can be detected quickly and new data can be sent if necessary."

Applicant submits that the proposed combination of Hutch with Burnsweig fail to follow the guidelines established by caselaw and the M.P.E.P. This is because a reasonable expectation of success does not exist in a Hutch-Burnsweig combination. The second prong of a *prima facie* case of obviousness requires a reasonable expectation of success. However, according to M.P.E.P. § 2142.01 "if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious."

Applicant submits that the Examiner's proposed combination results in an inoperable combination. Specifically, as discussed above, Burnsweig teaches transmission of a continuous sine wave, as shown in FIG. 21*b*. However, Hutch teaches a signal correlator for correlating pulse pairs (Abstract). Specifically, Hutch teaches:

"the operation of the signal correlator circuit shown in FIG. 1 is directed to a comparison operation of the data signal pulse pairs received over a data transmission line connected to the input terminal 4. Thus, the binary data information is received at the input terminal 4 as pulse pairs either with a positive pulse followed by a negative pulse or a negative pulse followed by positive pulse" (col. 2, lines 40-49).

The signal correlator circuit of Hutch, designed to receive pulse pairs, would not function if the continuous sine wave of Burnsweig was provided as an input. That is, Hutch is constructed to receive pulse pairs, but Burnsweig transmits a continuous sine wave. These two systems are inoperable with each other.

In view of the above discussion, Applicant respectfully submits that the Section 103 rejection of independent claims 1 and 9 has been traversed. Because claims 3 and 4 depend from claim 1, it is respectfully submitted that the rejection of claims 3 and 4 have been traversed by virtue of their dependency from claim 1. M.P.E.P. § 2143.03. Claims 6 and 7 depend from independent claim 5, which has been distinguished from the cited prior art above.

**Change of Attorney Address**

Accompanying this Response to Office Action is PTO form SB/122, Change of Correspondence Address. Please change the correspondence address to:

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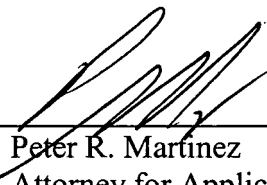
**Conclusion**

Applicant believes that this Response has addressed all items in the Office Action and now places the application in condition for allowance. Accordingly, favorable reconsideration and allowance of claims 1-12 at an early date is solicited. Should any issues remain unresolved, the Examiner is invited to telephone the undersigned.

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Respectfully submitted,

By: \_\_\_\_\_

  
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